UK LEVEL:4
UK CREDITS:15

(New Fall 2022)

PREREQUISITES:	CS 1070 INTRODUCTION TO INFORMATION SYSTEMS or ITC 1070 INFORMATION TECHNOLOGY FUNDAMENTALS
CATALOG DESCRIPTION:	An introduction to the key technical systems supporting music making via technology: MIDI, digital audio, sound synthesis and sampling. The focus will be on understanding the technical principles in operation in each area, relating these to the language and practice of music, and then building practical familiarity and experience with a range of different examples and tools.
RATIONALE:	A good understanding of the fundamental technical systems that support music making using technology enables students to evaluate tools and approaches according to musical criteria. This prepares them to be able to better understand technological systems as they appear in a wide range of subsequent music courses, being able to critically evaluate each differing musical situation and the relevance of differing technical resources that might be employed.
LEARNING OUTCOMES:	After successfully completing this course, students should be able to: 1. Evaluate and discuss how technology can support music making across a range of genres and styles. 2. Demonstrate the ability to employ MIDI, digital audio, sound synthesis and sampling to create and enrich simple musical ideas. 3. Identify and implement technical solutions appropriate to specific musical situations and requirements. 4. Create a short musical project realised using technology that explores the relationship between technology, musical language and musical creativity.
METHOD OFTEACHING AND LEARNING:	In congruence with the teaching and learning strategy of the college, the following tools are used: • lecture and seminar sessions exploring musical and technical concepts and principles; • structured practical work in a music technology facility; • extensive private study using freely available software on a student's own computer; • peer feedback workshops; • use of a learning management system (Blackboard) where instructors post lecture notes, assignment instructions, announcements and additional resources; • students are encouraged to make full use of their instructor's office hours, where they can ask questions, see their assigned work results and/or go over lecture material; • support from the Student Academic Support Services (SASS), who offer one-to-one and group workshop sessions to support the development of academic and study skills.
ASSESSMENT:	**Summative:**

First assessment project • A practical project that will implement one technological situation covered in the course and provide a critical evaluation in the form of a video presentation.	**30%**
Final assessment project • A creative practical project that will draw on the topics covered in the course to create music using an original blend of tools and techniques, with critical evaluation via a video presentation.	**70%**

Formative:

Practical Exercises (on campus and at home)	**0**

	The formative assessments prepare students for both summative assessments. Learning Outcomes 1 & 2 are assessed in the first assessment Learning Outcomes 1, 3 & 4 are assessed in the final assessment *Students are required to resit failed assessments in this course.*
INDICATIVE READING:	**REQUIRED READING:** Hosken, Daniel. *An Introduction to Music Technology,* Routledge, 2015. Williams, David & Webster, Peter. *Experiencing Music Technology,* OUP, 2022.
	RECOMMENDED READING: Manuals for the software being used, which are freely available online in Adobe Acrobat (PDF) format from the software company's web sites. These will also be hosted on the learning management system used in the course.
INDICATIVE MATERIAL: *(e.g. audiovisual, digital material, etc.)*	**REQUIRED MATERIAL:** Students will be directed to reviews, videos and other digital resources from the industry magazine Sound on Sound (www.soundonsound.com). **RECOMMENDED MATERIAL:** Students will be directed towards tutorial and review material hosted on manufacture websites as well as on Youtube.
COMMUNICATION REQUIREMENTS:	Students will be expected to make use of a learning management system (Blackboard) and have an active ACG email account. All written work should follow current MLA standards for formatting, style and citation.
SOFTWARE REQUIREMENTS:	The course will make use of a very wide range of different software packages, the specific details of which will be confirmed to registered students well before the course commences. This allows software needs to be adjusted to be fully up to date at the time of delivery. The aim will be to use free or shareware software wherever possible. Some use might be made of commercial software running in time-limited 'demo' modes. As an indicative guide, at the time of writing the following software packages form the core support to the course: • Audacity (www.audacityteam.org) • Reaper (www.reaper.fm) • MuseScore (www.musescore.org) • MaxMSP (www.cycling74.com) • PureData (www.puredata.org) • VCV Rack (www.vcvrack.com)
WWW RESOURCES:	There are extensive online resources for music technology. The course will make use of the support resources available for all of the core software packages in use. Further details can be found at the support pages of each package: • Audacity (www.audacityteam.org) • Reaper (www.reaper.fm) • MuseScore (www.musescore.org) • MaxMSP (www.cycling74.com) • PureData (www.puredata.org) • VCV Rack (www.vcvrack.com) The course will also make use of user-generated reviews and examples that are widely available on Youtube as well as music technology manufacturer web sites.

| INDICATIVE CONTENT: | **Introduction**
• Sound from the perspective of technology
• Music instruments from the perspective of technology
• Practicalities of the creation and control of sound on computers
• Brief survey of music involving computer technology

MIDI
• Basic theory of MIDI representation of musical data
• Basics of note-based editing, manipulation and transformation using standard sequencing software
• Real and virtual instruments
• Musical score creation and manipulation
• MIDI (and OSC) as communication tools for musicians

Digital Audio
• Basic theory of digital audio sampling
• Practicalities of digital audio on computers
• Editing, manipulating and transformation of digital audio
• Effects and the transformation of digital sound
• Introduction to sound synthesis
• Introduction to sampling
• Virtual modular synthesis systems

Creativity & Technology
• Practical and creative issues in the mapping of technical parameters to musical parameters
• Playing 'live' - improvising using technology, technological challenges and creative strategies to meet them
• Composition using technology – the shaping of ideas into coherent musical structures
• Examination of case studies concerning the use of technology in the creation and manipulation of music (both played live and composed in the studio) |